

## Claims

- [c1] 1. A layout of a wireless communication circuit on a printed circuit board (PCB), which is a rectangular board having a first side, a second side, a third side, and a fourth side in counterclockwise, wherein the first and the third sides are shorter than the second and the fourth sides, the first side is a Y-axis and the second side is an X-axis, the layout comprising:
- a first antenna, located at a corner between the first side and the second side;
  - an antenna switch, coupled with the first antenna, and located at about a middle y-coordinate and a first x-coordinate;
  - a first filter, coupled with the antenna switch, located under the antenna switch at a smaller y-coordinate;
  - a RF integrated circuit (RFIC), coupled with the first filter, and located at a larger x-coordinate than the first filter, wherein a sensitive input/output side of the RFIC is toward the second side of the PCB;
  - a first regulator, located near the second side of the PCB and at a higher X-coordinate than the RFIC;
  - a baseband/media access control (MAC), coupled with the RFIC, and located at about a middle y-coordinate and a higher x-coordinate than the first regulator;
  - a global oscillator, located about a corner between the second side and the third side;
  - a plurality of signal pins distributed along the third side of the PCB;
  - a second regulator, located near the fourth side and having about the same x-coordinate of the first regulator;
  - a power amplifier, coupled to the RFIC, located near the fourth side and about with the same x-coordinate of the RFIC, wherein the distance between the power amplifier and the RFIC is set to have sufficient value;
  - a second filter, coupled to the power amplifier, located at a smaller x-coordinate and near the fourth side;
  - a transmitting/receiving (T/R) switch, coupled to the second filter, and located at a lower y-coordinate than the second filter and about the same x-coordinate, wherein the T/R switch and the antenna switch are also coupled; and
  - a second antenna, coupled to the T/R switch, located at a corner between the first side and the fourth side.

- [c2] 2. The layout of claim 1, wherein the first filter includes a band pass filter (BPF).
- [c3] 3. The layout of claim 1, wherein the second filter includes only a low pass filter (LPF).
- [c4] 4. The layout of claim 1, wherein the RFIC include a zero-IF RFIC.
- [c5] 5. The layout of claim 1, wherein a first loop by a pair of power pins of the signal pins and the first regulator is formed, and a second loop by the pair of power pins of the signal pins and the second regulator is formed, wherein the first loop and the second loop do not cross each other.